

SUGGESTED SKILL

 Data Analysis

5.E

Explain what the data implies or illustrates about environmental issues.



AVAILABLE RESOURCES

- Classroom Resource > [AP Environmental Science Teacher's Guide](#)

TOPIC 5.7

Meat Production Methods

Required Course Content

ENDURING UNDERSTANDING

EIN-2

When humans use natural resources, they alter natural systems.

LEARNING OBJECTIVE

EIN-2.H

Identify different methods of meat production.

EIN-2.I

Describe the benefits and drawbacks of different methods of meat production.

ESSENTIAL KNOWLEDGE

EIN-2.H.1

Methods of meat production include concentrated animal feeding operations (CAFOs), also called feedlots, and free-range grazing.

EIN-2.I.1

Meat production is less efficient than agriculture; it takes approximately 20 times more land to produce the same amount of calories from meat as from plants.

EIN-2.1.2

Concentrated animal feeding operation (CAFOs) are used as a way to quickly get livestock ready for slaughter. They tend to be crowded, and animals are fed grains or feed that are not as suitable as grass. Additionally, feedlots generate a large amount of organic waste, which can contaminate ground and surface water. The use of feedlots are less expensive than other methods, which can keep costs to consumers down.

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LEARNING OBJECTIVE

EIN-2.1

Describe the benefits and drawbacks of different methods of meat production.

ESSENTIAL KNOWLEDGE

EIN-2.1.3

Free range grazing allows animals to graze on grass during their entire lifecycle. Meat from free range animals tends to be free from antibiotics and other chemicals used in feedlots. Organic waste from these animals acts as fertilizer. Free range grazing requires large areas of land and the meat produced is more expensive for consumers.

EIN-2.1.4

Overgrazing occurs when too many animals feed on a particular area of land. Overgrazing causes loss of vegetation, which leads to soil erosion.

EIN-2.1.5

Overgrazing can cause desertification. Desertification is the degradation of low precipitation regions toward being increasingly arid until they become deserts.

EIN-2.1.6

Less consumption of meat could reduce CO₂, methane, and N₂O emissions; conserve water; reduce the use of antibiotics and growth hormones; and improve topsoil.